Highlights

FINANCIAL

Gross Revenue:
$552.6 million

Total Expenses:
$522.3 million

Revenue in excess of Expenses:
$30.3 million

Extraprovincial Revenue:
$112.8 million

Energy sales within Manitoba:
$432.9 million

Finance Expense:
$246.8 million

Reserves:
$123.9 million

Additions to Fixed Assets:
$202.0 million

OPERATING

(Integrated System)

Total Generation
(including isolated stations):
23.4 billion kilowatt-hours

Manitoba Firm Energy Supplied:
15.4 billion kilowatt-hours

Manitoba Peak Load:
2 941 megawatts

(Manitoba Hydro)

Total Hydraulic Generation:
22.1 billion kilowatt-hours, highest on record

Power sales to Manitoba customers:
12.6 billion kilowatt-hours

Export Sales:
7.3 billion kilowatt-hours

Number of Customers: *346 719*

Peak number of employees: *3 853*

OTHER

- *Startup of construction at Limestone site.*
- *Completion of second bipolar transmission link on HVDC system.*
- *Winnipeg Control Centre established.*
- *Introduction of computerized customer service system.*
- *Mobile PCB decontamination unit purchased.*
- *Safety record among top three of major Canadian utilities.*

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Generating Stations and
Capacities . . . . . opposite inside back cover
Power Sources and High Voltage Transmission
(map) . . . . . inside back cover

The head office of Manitoba Hydro is in Winnipeg, one of the most culturally-endowed and ethnically-diverse cities in North America.

Letter of Transmittal

1986 06 25

The Honourable V. Schroeder
Minister responsible for the administration of
The Manitoba Hydro Act
Province of Manitoba
Legislative Building
Winnipeg, Manitoba
R3C 0V8

Sir:

I have the honour of presenting the Thirty-fifth Annual Report of The Manitoba Hydro-Electric Board together with financial statements for the fiscal year ended March 31, 1986.

Respectfully submitted,

M. Eliesen

Marc Eliesen
Chairperson
Board of Directors
The Manitoba Hydro-Electric Board

Power for the Present...Ready for the Next Century

Limestone construction proceeds under the glare of floodlights.

Manitoba Hydro, a provincial government-owned Crown Corporation currently marking its 25th anniversary in its present form, generates and distributes electricity to nearly 347 000 consumers throughout the province.

Prior to 1961, two provincially-owned utilities—The Manitoba Hydro-Electric Board and The Manitoba Power Commission—distributed electricity outside the City of Winnipeg. They were amalgamated to form Manitoba Hydro as a step to eliminate duplication and improve the efficiency of the province's power industry.

The Corporation, established by an Act of the Manitoba Legislature, is charged with the responsibility of providing electrical energy to Manitobans in an economic and efficient manner. The utility distributes electricity everywhere in the province except for the central portion of the City of Winnipeg which is served by city-owned Winnipeg Hydro. Manitoba Hydro and Winnipeg Hydro operate as an integrated electrical generation and transmission system.

Today, the affairs of the Corporation are governed by a Board of 11 members appointed by the provincial Cabinet.

Through its Chairperson, the Board reports on the activities of Manitoba Hydro to the Minister responsible for administration of the Manitoba Hydro Act who, in turn, reports to the Manitoba Legislative Assembly. In this manner, Manitoba Hydro is responsible to the people of Manitoba through their elected representatives.

The Corporation also prepares this annual report, including financial statements, in accordance with the provisions of the Manitoba Hydro Act. The report is intended for the information of customers, bondholders and others who may have an interest in the business of the Corporation. ■

Recent export contracts have influenced Corporate strategy.

The Corporation remains dedicated to the concept that service to customers is its number one priority but the signing of firm export contracts has prompted Manitoba Hydro to make an important change in its Corporate strategy for the years ahead.

Recent export contracts —plus current negotiations with a number of Canadian and U.S. utilities wanting Manitoba's power—have led to a decision to resume hydroelectric development on the Nelson River. Since two-thirds of the Nelson's clean, renewable energy potential still remain untapped, this decision will have a major beneficial impact on Manitoba's economic well-being in both the short and long term.

Corporate purchases and employment have already increased as a result of the 1985 start of construction on the $1.94 billion Limestone Generating Station on the Nelson. But while export contracts generate plenty of excitement and activity, Manitoba Hydro has not lost sight of its mandate to provide Manitobans with electricity at reasonable prices.

The utility is confident that Manitoba electrical energy rates will continue to be among the lowest in North America. ■

Chairperson's Message

Manitoba Hydro today faces a bright and challenging economic future. For the fiscal year 1985-86, net income was more than $30 million and our financial reserves increased to nearly $124 million.

This improved financial position can only benefit Manitoba Hydro customers in the long run. Furthermore, the Board of Manitoba Hydro is committed to a strategy designed to ensure that Manitoba Hydro rates remain low and stable. Part of that stragety is to restrict increases to levels that we expect will be at or below the rate of inflation.

Manitoba Hydro is in an exciting period of growth. Construction of the Limestone Generating Station is well underway. In the coming year, it is estimated that on-site employment will rise to between 1 100 and 1 200 men and women. The expansion of the Sundance townsite and the Limestone campsite will be completed and first concrete for the powerhouse and spillway will be poured.

Doreen Grochowich, Executive Assistant
Gerri Apperley, Executive Secretary — *M. (Marc) Eliesen*, Chairperson

Below Estimates

Through the Limestone project, Manitoba Hydro is creating business opportunities for Manitoba firms without paying premium prices. Major contracts for on-site work and supplies have been awarded below earlier estimates. The cost of building Limestone is now projected to be $1.94 billion, or nearly 25 per cent below earlier predictions. Manitoba content is about 80 per cent, higher than that for any previous hydro construction project in the province. Furthermore, multi-million dollar economic offset arrangements have been successfully negotiated, providing major benefits to Manitoba labor and business.

Affirmative action policies written into Limestone contracts have been highly successful, with persons from northern Manitoba comprising approximately 50 percent of the workforce at the site. In particular, employment benefits have been achieved for northern natives, as demonstrated by hiring rates in the range of 30 to 35 per cent. Additionally, northern native firms have been able to compete successfully for a reasonable share of the small to mid-size contracts tendered by Manitoba Hydro.

Top Priority

Our priority continues to be low-cost, reliable electrical service for Manitoba. We are proud of our successful record. At the same time, Manitoba Hydro's export markets remain promising. Considering the environmental risks posed by energy sources such as uranium and coal, we are fortunate to have a clean, renewable and safe hydro-electric resource. It is an abundant resource, one which powers our industries, farms and communities. It is a resource that can provide significant economic benefits for the people of Manitoba.

A profitable power export agreement with Northern States Power Company of Minneapolis has enabled Manitoba Hydro to advance Limestone's construction. With additional export arrangements being finalized, further development of our hydro potential will be undertaken, creating more than a decade of hydro development in Manitoba's north.

Enhanced Opportunities

Manitoba Hydro continues to implement its affirmative action policy aimed at enhancing opportunities for women, natives and the physically handicapped. There has been some movement by women into "non-traditional" occupational categories while the number of native employees has increased, particularly in technical trades areas. A scholarship program was introduced to encourage women and natives to enter studies in engineering at the university and community college levels.

I wish to note that John Arnason is retiring this year after 37 years of service to Manitoba Hydro, culminating in his appointment as President and Chief Executive Officer in 1983. His professional abilities, high personal standards and sense of service have been an inspiration to all who have worked with him. On behalf of the Board of Directors, I thank Mr. Arnason for his hard work and dedication. The people of Manitoba owe him a debt of gratitude for his contribution to building one of the most reliable and economical electrical systems in Canada.

In conclusion, I extend my thanks and congratulations to the employees of Manitoba Hydro for a successful year. An admirable safety record, enhanced reliability of the electrical system and increased profitability speak well for their performance and dedication to high standards. ■

M. Eliesen

Marc Eliesen
Chairperson
Board of Directors
The Manitoba Hydro-Electric Board

President's Message

In 1948, when I joined The Manitoba Power Commission, the utility served 40 000 electrical customers, our revenues were $2.9 million and assets were $21.4 million.

Today, 346 700 customers rely on Manitoba Hydro for their supplies of electrical energy. Revenues this fiscal year totalled $552.6 million and the Corporation's assets are in the order of $3.1 billion.

John J. Arnason, President and Chief Executive Officer

Service Important

Impressive as those figures might be, the effectiveness of a utility is not necessarily measured in terms of its growth. More important is service to customers and how that service compares with other utilities or private enterprise. Keeping the interests of customers uppermost in our minds continues to be the philosophy of management. This principle is instilled in our staff at an early stage of their career development. Not to do so would result in a drifting away from that important value. I have been pleased to be a part of the continuing process of maintaining good customer service and customer relations.

We operate in changing times and the utility has had to adapt and improve its expertise. To this end, we have updated the Corporate Mission Statement and documented a new Corporate Strategy. These are guidelines to management and staff to assist in responding to the challenges of the future. The one constant is that we remain committed to providing the people of Manitoba with reliable and economic electricity.

Gratifying Results

The financial results of the past year have been most gratifying. A year ago, we reported a surplus of $11.1 million after four years of deficits. The past fiscal year has exceeded our expectations with a net revenue of $30.3 million. This is the third highest annual surplus in the history of the utility.

Financial reserves are at a level of $123.9 million. This will improve our equity position which was severely depleted during years when rates were not increased. The improvement in reserves will assist the Corporation's financial position during times of drought. The policy of the utility is to protect its financial position during a two-year period of low water.

The turnaround in our financial position in the last few years has stemmed from effective cost containment by management and staff, lower inflation and modest rate increases. In 1985-86, the utility was also blessed with plentiful water supplies, resulting in an abundance of hydraulic energy available for export to our neighbors.

Forty years ago, as a student, I worked in rural Manitoba, wiring farm homes. It was the beginning of rural electrification, a time of change and improved social conditions because of the introduction of electricity to many parts of the province. The great sense of satisfaction derived from seeing the reaction of first time recipients of "hydro" has lingered with me to this day. I joined The Manitoba Power Commission in 1948 as an electrical engineer in the Rural Electrification Department and during my 37 years with the utility, I have had the good fortune to continue to receive satisfaction from providing service to the people of this province.

Prudent Course

Once again, the utility is in an expansion mode, with the Limestone development in progress and planning underway for Conawapa and the major transmission associated with that station. I am convinced today, as I was in the 1970s during our previous expansion program, that the development of our hydro resources in an orderly fashion, supported by firm power sales to our neighbors, is a prudent course of action.

Expansion is not without risks. Progress is never made without incurring risks. The balanced judgment of knowledgeable people weighs those risks and then decisions are made. I am a firm believer that, on balance, the people of Manitoba will greatly benefit from the planned development of our hydro resources.

I would like to express my gratitude to the officers and employees of the Corporation, as well as to the Board, for their support.

It has been a privilege and honor to serve as your President and Chief Executive Officer. ■

J J Arnason

John J. Arnason,
President and
Chief Executive Officer

The Manitoba Hydro-Electric Board

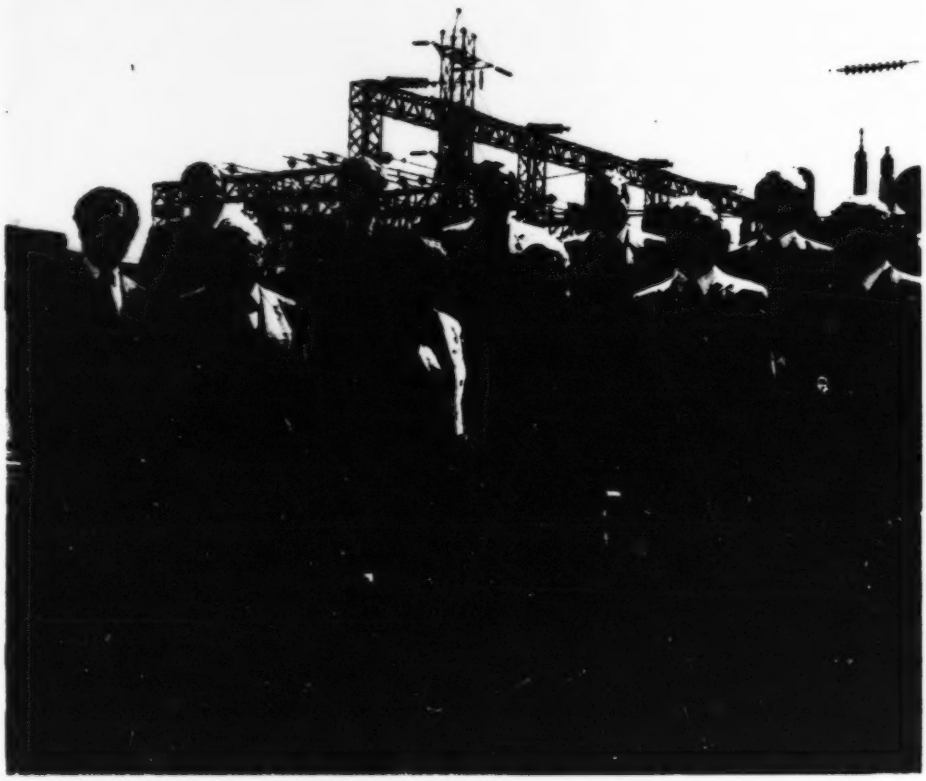
The Board's 11 members are appointed by the Cabinet of the Government of Manitoba to set policies for the Corporation.

Bringing a wealth of experience to the Board, they are:

M. (Marc) Eliesen, ***Chairperson,*** *also Chairperson and Executive Director of the Manitoba Energy Authority.*
Charles E. Curtis, ***Vice-Chairperson,*** *Deputy Minister of Finance, Province of Manitoba.*

Directors

Rod J. Beaudry
Manitoba Hydro Production Division, Great Falls, Manitoba.
William E. Cheater
Manitoba Hydro Regional Services department, Winnipeg.
Saul M. Cherniack, *Q.C.*
Winnipeg lawyer.
Peter Fox
retired power engineer and MLA, Winnipeg.
Dr. Edmund Kuffel
Dean of Engineering, University of Manitoba.
Jack R. London
Professor of Law, University of Manitoba.
Dr. Nora E. Losey
Associate Dean of Science, University of Manitoba.
Clyde R. McBain
President and General Manager, Ancast Industries Ltd., Winnipeg.
Roy D. Minish
retired businessman, Swan River, Manitoba.



Front Row (Left to Right)
Marc Eliesen, Chairperson
Saul M. Cherniack, Q.C.
Dr. Nora E. Losey
Peter Fox
John J. Arnason, President and Chief Executive Officer
Rod J. Beaudry

Back Row (Left to Right)
William E. Cheater
Charles E. Curtis, Vice-Chairperson
Roy D. Minish
Clyde R. McBain
Dr. Edmund Kuffel

Missing
Jack R. London

A Challenging Mandate... Capably Carried out by Senior Management

Manitoba Hydro's senior management includes four Vice-Presidents, reporting to the President and Chief Executive Officer, who share the responsibility for the operations and continuing development of a major Canadian public utility.

Their mandate is to run Manitoba Hydro's day-to-day business in a manner consistent with the policies and objectives of the Board, the Manitoba Hydro Act and the Corporation's statement of mission.

An Executive Committee consisting of the President and Chief Executive Officer; the four Vice-Presidents; the Executive Manager, Corporate Planning, C.J. (Chris) Goodwin; the Executive Manager, Corporate Affairs, L.M. (Linda) Jolson; and the General Counsel and Secretary, J.F. (John) Funnell, Q.C., establishes priorities and provides policy direction to the Corporation.

A talented group of other senior managers directs various departments of the Corporation. It is a team effort at Manitoba Hydro—with both managers and employees working in close co-operation for the benefit of the province's power consumers. ■

R.M. (Murray) Fraser, *Executive Vice-President—Corporate Services,* directs the development and implementation of programs and policies in the areas of finance, accounting, internal audit, information systems and human resources. Mr. Fraser also has the responsibility for Corporate services such as safety, fire protection and occupational health.

D.S. (Don) Duncan, *Vice-President—Engineering and Construction,* heads the departments that plan and supervise systems design and expansion. Major construction programs such as Limestone come under Mr. Duncan's jurisdiction.

W. J. (Will) Tishinski, *Vice-President—System Planning and Operations,* directs the production and transmission of electric energy by the Corporation. Mr. Tishinski also guides planning activities that result in the development of adequate, efficient and economic generation and transmission systems in the province.

R.O. (Ralph) Lambert, *Vice-President—Customer Service,* is responsible for Hydro's electrical distribution operations. Mr. Lambert ensures that Manitoba's electric power system adequately and reliably meets customer needs in the most economic manner.

Hydro-Electric Power... A Resource Whose Time Has Come

HVDC lines bring power to southern load centres.

The Dorsey Converter Station is the southern terminus for the HVDC lines from the Nelson River.

The power potential of the Nelson River will continue to be harnessed to meet the demand for clean, reliable energy.

As long ago as 1900, people were aware of the rich hydro potential of the province's northern rivers.

But their dream of drawing power from those rivers and creating an accompanying economic boom remained on hold for more than half-a-century. Until the 1960s, Manitoba's need for electricity was amply filled by six power plants on the Winnipeg River in the southern half of the province. Once all the southern sites were harnessed, Manitoba Hydro planners began to look north, spurred on by new technology which finally made it feasible to transmit electrical energy over extremely long distances.

Manitoba Hydro's first major northern generating station—Kelsey on the upper Nelson River—was completed in 1960. But that was only a taste of things to come. Requiring still more power for a growing province, hydro engineers shifted their attention first to Grand Rapids on the Saskatchewan River and then to the lower Nelson and the Churchill rivers.

The total power potential of the Nelson-Churchill river system is 8 900 megawatts—more than twice Manitoba's existing capacity. This watershed drains an area of more than one million, three hundred thousand square kilometres, stretching from the foothills of the Canadian Rockies to within 19 kilometres of Lake Superior. It includes large areas of Alberta, Saskatchewan, Manitoba and Ontario and reaches southward into Montana, North Dakota and Minnesota.

Lake Winnipeg, the world's 13th largest lake, serves as a natural reservoir for the vast Nelson River drainage basin. With a major resource like this on its doorstep, Manitoba Hydro embarked on power development in a remote wilderness area.

Kelsey, the first generating station on the Nelson, was built to supply power to INCO Ltd.'s mining and smelting operations at nearby Thompson. However, the big push to tame the Nelson started in 1966 when Manitoba Hydro adopted a long-range plan to develop additional stations on the northern river system.

This launched a decade of hydro construction which provided significant impetus to the provincial economy. The first major Nelson River power plants, Kettle and Long

Kettle Generating Station is the largest plant on the Nelson River.

Spruce, along with a smaller station at Jenpeg, were completed in the 1970s.

When the Nelson program started, Manitoba Hydro also built High Voltage Direct Current (HVDC) lines so that electricity from the new plants could be economically transmitted more than 900 kilometres to load centres in southern Manitoba. Because of its extensive work with HVDC transmission, Manitoba gained recognition as a world leader in this technology.

By the mid-1970s, the province had a northern hydro-electric system in place. But in 1977, a slowdown in demand for electricity forced the postponement of further construction on the Nelson, with 70 per cent of the generating potential still untapped.

Work on Limestone, the third large station on the lower Nelson, was suspended in the preliminary stages. Everything remained dormant until the early 1980s when North American utilities—concerned about the escalating costs of various forms of energy—started to look at Manitoba as a possible source of supply.

The big breakthrough came in 1984 when Northern States Power Company of Minneapolis agreed to buy 500 megawatts of Manitoba power over a 12-year period starting in 1993. This contract paved the way for Manitoba Hydro to resume construction of the $1.94 billion Limestone plant which will come on stream in the early 1990s.

The potential for further large export sales is real because many North American utilities are looking for less costly alternatives than building new nuclear or coal-fired plants.

Manitoba Hydro and Ontario Hydro have already signed a letter of intent to investigate a major power sale from Manitoba to Ontario. In addition, six U.S. utilities, known as the Upper Mississippi Power Group, have signed a memorandum of understanding to study the purchase of significant amounts of power from Manitoba in the 1990s. As part of this understanding,the U.S. utilities and Manitoba Hydro would exchange power on a seasonal basis—and a new interconnection line would be built.

Manitoba Hydro is not new to the export business. For 15 years, the province's power utility has transmitted increasing amounts of power to customers in the United States and neighboring provinces. This trend will accelerate in the years ahead as regions all across the continent step up their search for a clean, reliable, economic and renewable source of energy.

Manitoba is on the verge of another decade of hydro-electric development which will bring immense economic benefits to the province. The growing needs of Manitoba consumers coupled with the potential for more export contracts will require construction of the $3 billion, 1 300 megawatt Conawapa Station, downstream from Limestone.

After a long wait, Manitoba's hydro power is truly a resource whose time has come. ■

Limestone... Ushering in a Decade of Development

Construction will peak in 1987-88.

Manitoba Hydro is undertaking one of North America's largest projects—construction of the $1.94 billion Limestone Generating Station on the Nelson River in the province's north.

Since work commenced in the summer of 1985, companies from around the world have been competing for the more than 50 major contracts and hundreds of smaller ones that will be awarded during the next eight years of construction.

The total value of orders placed for all the goods and services required by the Corporation during 1985-86 was $608.9 million. This compares with total orders of $87.7 million in the previous fiscal year. Much of the increase was directly related to the startup at Limestone. But this only represents a beginning because construction at the site will build to a peak in 1987-88, guaranteeing that Limestone will be a prime engine of Manitoba's growth for the next few years.

The Limestone Station is starting to take shape at Limestone Rapids on the Nelson—at a site 750 kilometres by air north of Winnipeg and 260 kilometres south of Churchill on Hudson Bay. The 1 280 megawatt plant is being built to supply the province's increased domestic electricity needs in the early 1990s and to enable the province to fulfill a contract to export large quantities of power to the Northern States Power Company of Minneapolis.

Under the construction timetable, Limestone's first two generators will be producing electricity in 1990 while the remaining eight generators will be in service by 1992.

The station's concrete powerhouse—299 metres long by 56.5 metres wide—will have 30 intake gates and seven large gates in the adjoining spillway. Earthfill dams approximately 800 metres long with a maximum height of 40 metres will run from each end of the powerhouse to the banks of the Nelson.

In establishing tendering practices for Limestone, Manitoba Hydro has taken steps to ensure that as many benefits as possible flow to Manitoba companies and workers. Manitoba Hydro is following a policy of open competitive bidding, but is emphasizing to bidders the importance of a high level of Manitoba content and of the desirability of hiring the province's northern people, especially those of native ancestry.

As part of the procedures, potential Limestone contractors are being asked to identify all suppliers and subcontractors participating in a given tender. Principal contractors may be requested to substitute in-province companies for outsiders if Manitoba content is insufficient. They may also be asked to establish industrial offset programs in the province if the goods they are producing for Limestone originate outside Manitoba.

At year-end, construction at the site had been limited to rock excavation, training and mobilization of materials and equipment. It is anticipated that during the early part of the 1986 construction season, the contractor will start to pour the many layers of concrete that will form the powerhouse and spillway structures. There will be approximately 1 200 workers on site this year and a peak work force of 1 800 by 1988, after which the project will start to wind down. Altogether, Limestone will create 6 000 person-years of direct construction employment and 13 000 person-years of indirect employment.

The Corporation in 1985 awarded the $236 million Limestone general contract to a consortium known as Bechtel-Kumagai headed by Kumagai-Gumi Ltd. of Tokyo and the Toronto-based Canadian subsidiary of the Bechtel Group Inc. of San Francisco. This contract calls for the contractors to excavate 3.2 million cubic metres of rock, pour 600 000 cubic metres of concrete, install 27 000 tonnes of reinforcing steel and erect 1 500 tonnes of superstructural steel. As part of the agreement, this international consortium is committed to allocating a significant part of the work to Canadian subcontractors and manufacturers, many of them in Manitoba.

An arrangement for a high level of Manitoba content has also been made with Canadian General Electric Company Limited of Toronto which has been awarded a $100 million contract to supply Limestone's 10 turbines and generators. Other major contracts which were awarded to Manitoba companies include a $22 million cement contract to Genstar Cement Limited's Winnipeg plant and a $16 million order for reinforcing steel that has been placed with Manitoba

Limestone contractors will excavate 3.2 million cubic metres of rock

Rolling Mills in Selkirk.

Limestone is offering opportunities for companies both from within Manitoba and from elsewhere to bid on everything from sewer installation and road development to housing, security, catering and insurance. While many workers are living at the construction site, Manitoba Hydro is also developing a modern townsite for 300 to 400 families at Sundance, eight kilometres from Limestone.

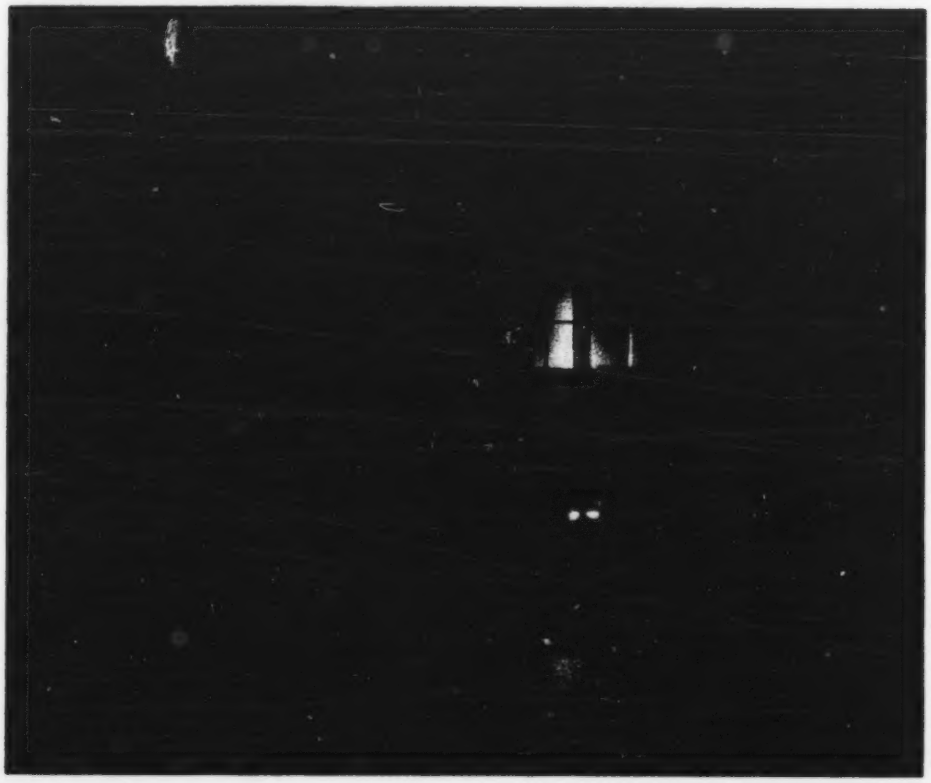
It is planned to be a fully self-contained community, with shopping, a health clinic, school, church, curling rink, indoor skating rink, an auditorium and a bowling alley. ■

Beyond Limestone

While public attention was focussed on Limestone, planning continued during the year for two other proposed generating stations in northern Manitoba. Studies were simultaneously underway on the Burntwood River development with particular emphasis on the Wuskwatim site, and on the larger Conawapa plant on the Nelson River. Crippen Acres Engineering is providing technical consulting services to Manitoba Hydro to assist with the studies. Environmental overview studies are being undertaken concurrently with the technical studies to determine the social and economic impacts of the two stations. In the near future, studies will be sufficiently advanced to the point where a decision can be made on the next plant to be developed after Limestone. ■

Sparking the Growth of Industry

Low electricity rates contribute to industrial and business development.



Photograph courtesy Manitoba Rolling Mills

Scrap metal for subsequent conversion to special steel products is efficiently melted down in a huge electric arc furnace.

Economic and stable electricity rates have been a major factor in helping Manitoba to develop one of the most diversified industrial economies in Canada.

The province—covering more than 650 000 square kilometres in the centre of the country—is the home of just about all types of manufacturing and processing.

Established in 1870 as the fifth Canadian province, Manitoba's well-being in the early days was exclusively tied to agriculture. Today, agriculture remains an important contributor to the province's prosperity, but its dominance has been lessened by the steady growth of other industries.

In the resource sector, there is forestry, mining and fishing and, in western Manitoba, a small but thriving oil industry. Winnipeg, the province's capital, is head office for eight of Canada's 14 largest trucking companies and is a hub of railroad and airline transportation.

It is in manufacturing that the province's economic diversity is most apparent. Manitoba has a wide variety of expanding secondary industries, the largest of which are in garment production, food processing, electronics, aerospace, printing and publishing, construction materials, furniture and machinery-making. In total, there are 1 600 plants in the province that produce more than $5 billion worth of goods a year.

Recently, Manitoba's service sector has been experiencing rapid growth—in line with a trend across North America. This sector employs the majority of Manitobans—about 300 000 of the 500 000 people who comprise the province's labor force. Major service employers include banks, insurance companies, schools, universities, governments, retail stores, hotels, restaurants and tourist camp operators. Since the worldwide recession of 1982, Manitoba's overall economy has steadily improved.

Because of the ready availability of low-cost hydroelectricity, Manitoba has been increasingly attracting the attention of energy-intensive industries whose power bills are a significant factor in production costs. The north's nickel smelting and copper and zinc refining industries are heavy users of electrical energy.

Other industries that are major consumers of hydro power include fertilizer manufacturers, chemical processors, pulp, paper and lumber operators, food and beverage companies, foundries and metal casting plants. Since Manitoba still has the potential to almost triple its generating capacity, the number of energy-intensive industries in the province is bound to increase in the years ahead. ■

Manitoba's Competitive Advantage

Working inside a huge coffer dam, Limestone tradesmen are part of Manitoba's skilled labor force.

An abundant supply of reasonably priced renewable energy is attractive to industry.

Abundant supplies of renewable energy at reasonable prices will give the province a competitive advantage in attracting new industry in coming decades.

The objective of the provincial government is to seek stable and steady growth, building on Manitoba's traditional strengths and realizing new opportunities. Because of the lure of attractive electricity rates, the province in future could become the profitable home of many more energy-intensive industries. In particular, there will be competitive advantages here for companies that produce such products as hydrogen, glass, silicon, plasma, optical fibres, ceramics and chemicals.

Plentiful supplies of electrical energy are also a drawing card for some heavy industries. From time to time, several aluminum companies have expressed an interest in building multi-million dollar smelters in the province, but those projects are on hold until there is an improvement in world metal prices.

While low cost hydroelectric energy is the province's competitive advantage, Manitoba has other impressive assets that will motivate companies to settle within its boundaries. The province's labor force of more than 500 000 has established a reputation for reliability and productivity, working at wage rates that are kept in balance by modest rises in the cost of living.

Historically, good labor-management relations have prevailed in the province. In recent years, Manitoba companies have lost less time due to work stoppages than their counterparts in most other Canadian provinces. As well, the province's unemployment rate in the 1980s has consistently ranked among the three lowest in the country.

The efficiency of the labor force can be traced to the province's educational system. The universities of Manitoba, Winnipeg and Brandon, with a combined enrolment of more than 30 000, annually graduate hundreds of young people with professional training in a variety of disciplines. Three community colleges—Red River in Winnipeg, Assiniboine in Brandon and Keewatin at The Pas—also play a key role by delivering extensive trades and business training programs throughout the province.■

The Spin-Off Factor

Major Contribution to Technological Development

Manitoba Hydro's presence has been a major factor in helping the province to acquire a world-wide reputation for the excellence of its activities in research and development.

The Corporation is a sponsor of the Manitoba HVDC Research Centre which was established in 1981 to capitalize on the province's acknowledged expertise and leadership in the long distance transmission of electricity. This expertise was developed in the 1960s when a way had to be found to transmit electricity hundreds of kilometres from the first plant on the lower Nelson River to Winnipeg. Much of the HVDC Centre's work still involves refinements and improvements to the high voltage-direct current (HVDC) lines which connect the Nelson plants to the load centres in the south. In addition, the Centre has recently handled a multi-million dollar contract for the National Research Council and has taken part in a research project with the Electric Power Research Institute (EPRI) of Palo Alto, California.

Manitoba Hydro is also a key supporter of the Industrial Applications of Microelectronics Centre which was set up in 1979 at the University of Manitoba. This Centre annually derives a third to a half of its business from Manitoba Hydro, working with the Corporation on many projects including the development of electronic monitoring systems to detect malfunctions in transmission lines.

Partly because of the support it receives from Manitoba Hydro, the Microelectronics Centre has had the resources to undertake a variety of research and development projects for private industry. Centre staff have also made inroads into the international market, devising an electronic sound system for a large concert hall in Malaysia.

Private consulting firms have also benefitted both commercially and technically from the major developments that have been undertaken by Manitoba Hydro in the past two decades. Typical is Teshmont Consultants Inc. which was established in Winnipeg in 1966 specifically for the design and engineering management of high voltage electric power transmission systems.

Since its initial work on the Nelson River Transmission System, Teshmont has become an international leader in extra high voltage transmission. Between 1971 and 1986, the Winnipeg company designed and consulted on projects in the United States, Latin America, Africa, China and Australia. Of the total installed HVDC capacity in the world today, Teshmont has had a hand in 50 per cent of its development.

Manitoba Hydro's ongoing requirements for engineering, electronics and business systems will continue to be a boon to the province's universities, research centres and private consultants. Because of these important spin-offs from the Corporation, Manitoba will find it easier to stay in the forefront of technological development.

The Corporation strongly supports the Industrial Application of Microelectronics Centre at the University of Manitoba.

Internal Research Expands

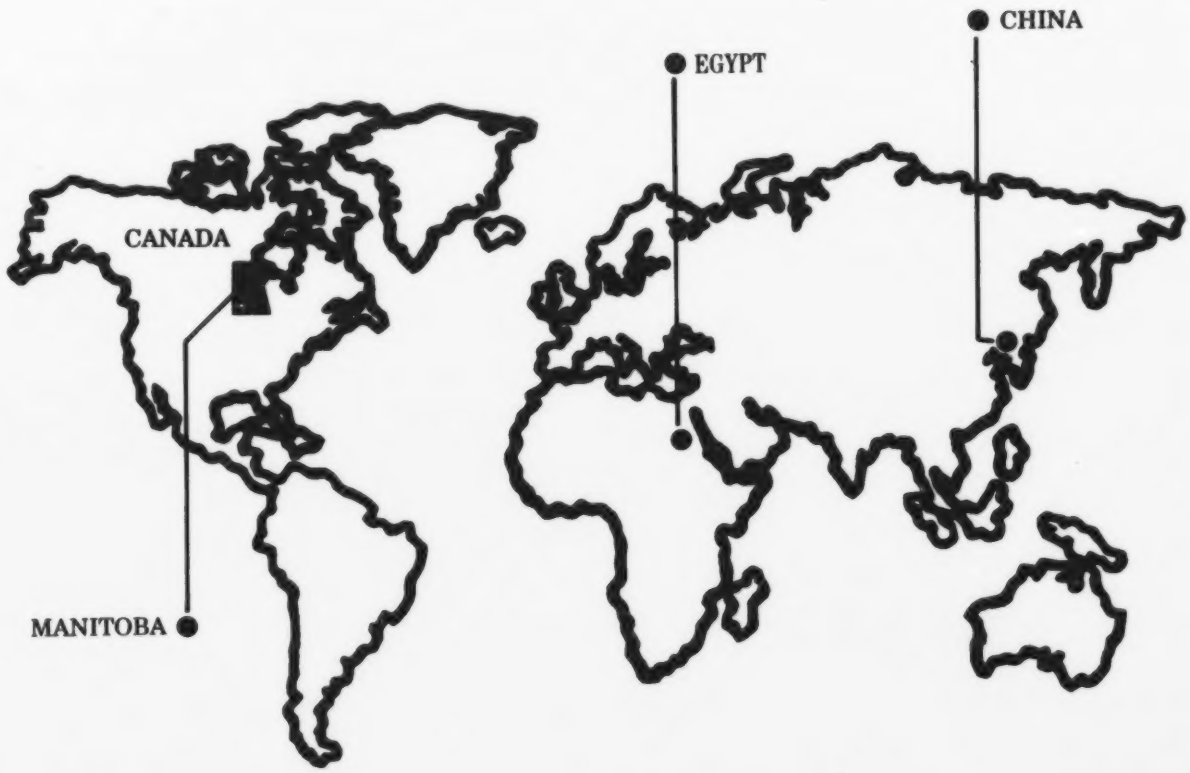
Manitoba Hydro has made a decision to expand its own research and development program substantially during the next five years.

The central purpose of the utility's R & D program is to provide scientific and technological support for the planning, design, construction and operation of the province's power system. By enlarging this program, the Corporation expects to significantly increase its application of advanced technology, thereby gaining both operational and financial benefits.

Manitoba Hydro's research and development is closely related to activities of the Manitoba HVDC Research Centre, the Industrial Applications of Microelectronics Centre, the University of Manitoba and the Canadian Electrical Association. Although the Corporation's program covers everything from generation and transmission to distribution and utilization, the major portion is devoted to High Voltage Direct Current transmission, an area in which Manitoba Hydro has gained world-wide recognition for its expertise. ■

Expertise for Export

Marketing the Skills of Employees



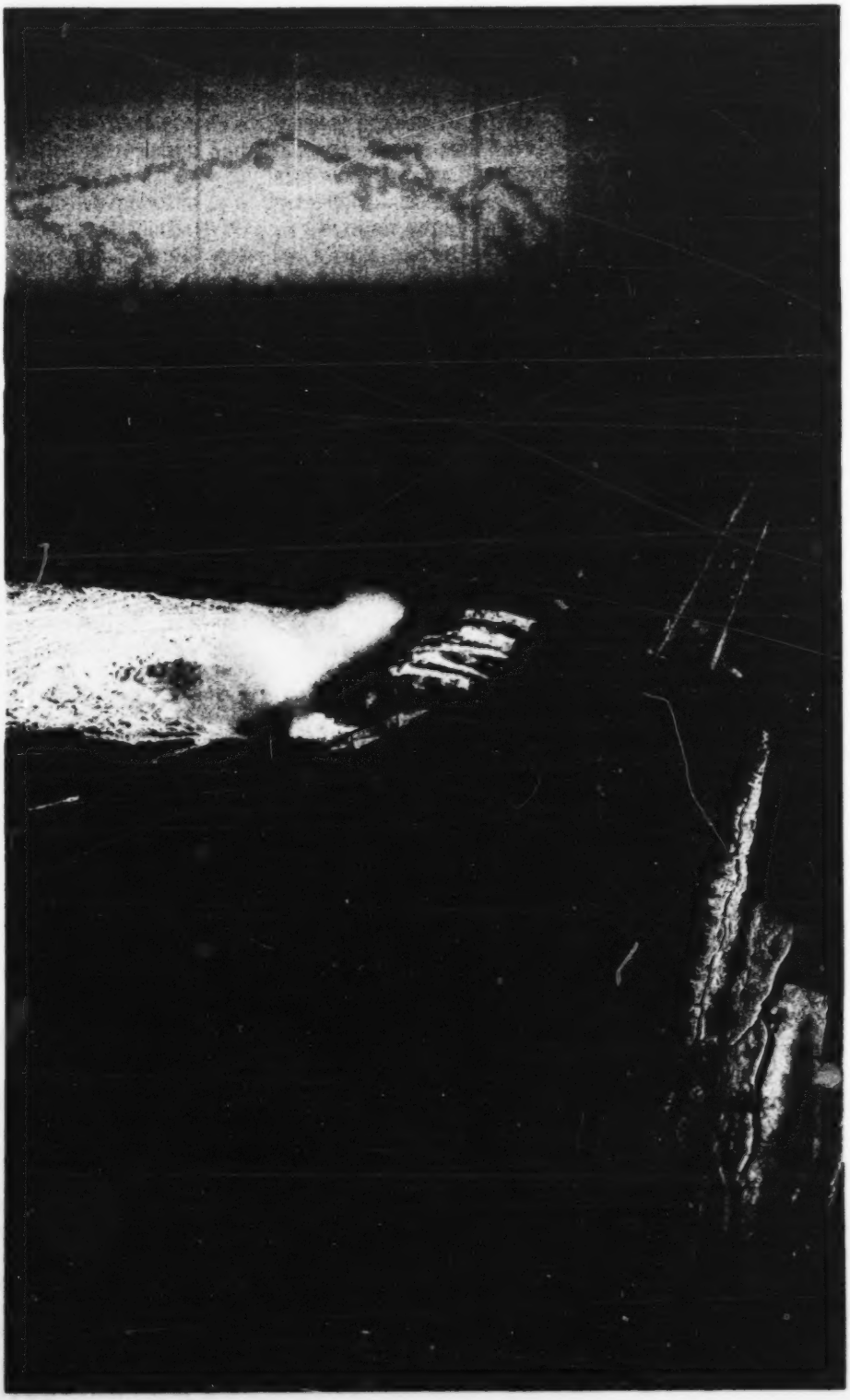
Besides its basic purpose of supplying power in Manitoba, the Corporation has recently embarked on a program to market the skills of its employees to utilities around the world.

The Corporation's Export Services department has been set up specifically to offer technical and management services to countries that want to improve and expand their electric power systems. Although only a year old, the department is already involved in significant contracts with China and Egypt. As well, the department has provided consulting services on transmission projects to two manufacturers—Dominion Bridge—a Unit of AMCA International, and BBC Brown Boveri Canada Inc.

Under its mandate, the department will sell training services either directly or in collaboration with other Canadian utilities, private consulting firms, manufacturers and universities. Manitoba Hydro is one of five Canadian utilities led by B.C. Hydro which is delivering a technical assistance program to the People's Republic of China. Altogether, Manitoba Hydro personnel will conduct three or four seminars in China during the course of the contract.

In Egypt, Manitoba Hydro is a sub-contractor to Ontario Hydro on a five-year, $12 million project that is being financed by the Canadian International Development Agency (CIDA). This project will call for the Canadian utilities to train instructors and set up facilities for a transmission training school that the Egypt Electricity Authority is establishing in Cairo. ■

Records Set for Power Generation



Manitoba Hydro's 11 hydraulic plants generated a record 22.1 billion kilowatt-hours of electricity in 1985-86.

This was 5.8 per cent higher than the previous record of 20.9 billion kilowatt-hours set in 1983-84 and 10.9 per cent higher than the 19.9 billion kilowatt-hours generated last year.

Hydraulic generation provided 98.9 per cent of the Manitoba system's total requirements, compared with 98 per cent the previous year. A total of 0.7 per cent came from thermal generation while the balance was imported from outside the province.

Altogether, the Manitoba system, which includes both Manitoba Hydro and Winnipeg Hydro plants, generated and purchased 23.5 billion kilowatt-hours of electricity to meet the requirements of Manitoba and export customers. This was 9.4 per cent more than the 21.5 billion kilowatt-hours supplied during 1984-85.

Export sales of electricity totalled 7.3 billion kilowatt hours, an increase of 26.4 per cent from sales of 5.8 billion kilowatt-hours in 1984-85. The U.S. market accounted for 84.4 per cent of exports, Ontario 12.6 per cent and Saskatchewan 3 per cent. Total export revenues were $112.8 million, compared with $103.2 million last year.

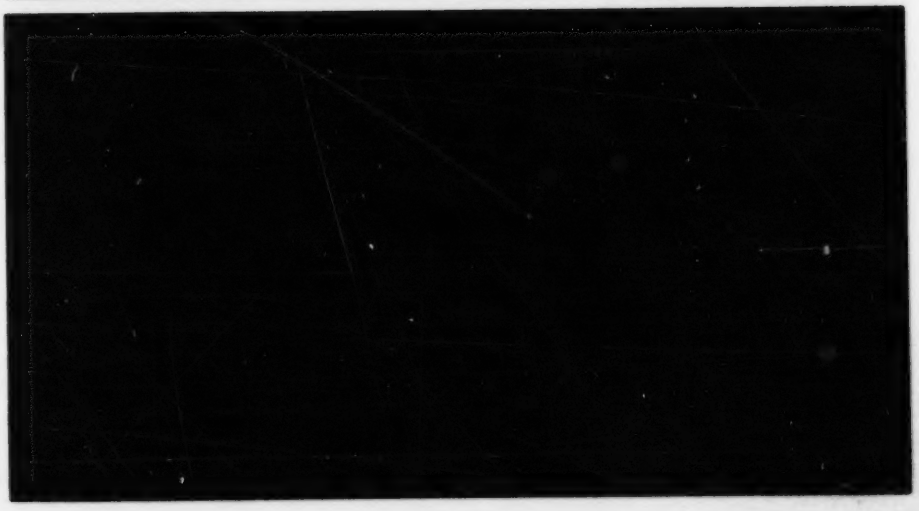
Long Spruce Generating Station on the Nelson River contributed to record hydraulic generation during the year.

A total of 15.4 billion kilowatt-hours of electricity were generated to supply Manitoba customers, an increase of 2.5 per cent from 15.0 billion kilowatt-hours in 1984-85.

The maximum load on the system was experienced Wednesday, November 27, 1985 at 5:18 p.m. when 2 941 megawatts were required to meet customer demands. However, the peak was down from the record 2 952 megawatts required on Saturday, January 19, in the previous fiscal year.

Plants on the Nelson River contributed 73.4 per cent of total generation in 1985-86, while the Winnipeg River plants contributed 18.9 per cent, Grand Rapids 6.3 per cent and the Laurie River plants 0.3 per cent. All plants on the Nelson, with the exception of Kelsey, set production records. Total electricity generated by the Winnipeg River plants was the second highest on record.

Supply of diesel-electric energy to isolated northern communities totalled 46.5 million kilowatt-hours, the same as last year. The Churchill plant accounted for 55 per cent of the total energy generated. At year-end, sixteen communities were supplied by diesel plants, compared with seventeen last year. ■



Service to Customers

Manitoba Hydro residential and farm customers totalled 305 700 at March 31, 1986, an increase of two per cent above the previous year. Power and general service customers increased by 1.2 per cent to 41 019.

Approximately 6 100 residences were connected to the system during the year, of which 37 per cent were heated electrically. Another 2 600 residences were converted to electric heating during the year, making a total of 81 000 electrically-heated single family residences and apartment units in the Manitoba Hydro service area.

The Corporation's service area encompasses 130 000 square kilometres. To provide effective customer service, the total area is divided into three geographic regions. The offices of the Western Region, Central Region, and Eastern Region are located in Brandon, Winnipeg and Selkirk respectively. Each Region is responsible for planning, designing, constructing, operating and maintaining the electrical distribution system in its own area.

Customer Service System

A new computerized system is being installed so that Manitoba Hydro's 346 700 customers will be able to obtain more immediate information about their bills and energy consumption.

Computer terminals are being placed in 70 local Manitoba Hydro offices throughout the province so that these offices will have direct and immediate access to detailed customer information. By year-end, 70 000 customers in Winnipeg were on the new system, with the balance of urban and rural customers to be converted during 1986-87.

Customer Programs

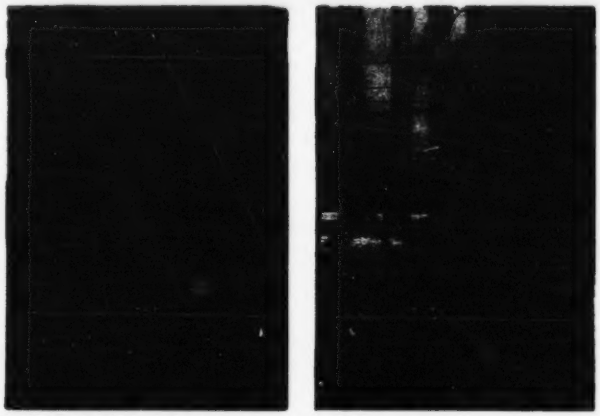
The Corporation continues to provide or administer programs to promote the efficient use of energy.

An Electric Heating Program provides information and financial incentives for customers installing electric heating in a new or existing home which meets energy efficient standards.

An Electrical Modernization Plan provides loans to customers who wish to improve their electrical systems, or install electric space heating, water heating, central air conditioning or other modern equipment.

The province's Home Chec-Up Program, administered by Manitoba Hydro, enables customers to draw on the services of trained advisors who carry out a complete analysis of the energy efficiency of their homes.

The province's Chec Loan Program, also administered by Manitoba Hydro, provides homeowners with low interest loans to help them pay for labor and materials when they improve the energy efficiency of their dwellings. Loans this year exceeded $3 million.



Manitoba Hydro's employees are dedicated to the highest level of customer service.

New Customer Service Buildings

In January, West Kildonan district staff moved to a new 892 square metre building. The new building, with office space, vehicle garage and material storage area, is a better facility to serve the 16 000 customers in the area.

In May, Gimli district staff relocated to a new service centre, designed and built to improve service to 7 300 customers in the district. The 647 square metre building contains office space and a storage area for materials and equipment.

Winter Road Haulage

During the winter months, Manitoba Hydro hauled 6.4 million litres of fuel and other goods over 1 200 kilometres of northern Manitoba winter roads.

Youth Safety Program Makes its Debut

Manitoba Hydro has launched a Youth Safety Education Program, an extension of the Corporation's public safety endeavours.

Under the program, Manitoba Hydro representatives are visiting schools and talking to children in grades one to twelve, making them aware of common hazards associated with the use of electricity.

The focal point of the presentation is an electrically-energized replica of a small town which is used to demonstrate a variety of outdoor electrical hazards. Printed material and films geared to the students are also used in the presentation. Each presentation provides an opportunity for student input and questions, as well as for participation by Manitoba Hydro staff who are familiar with the people and problems in particular communities.

About 15 000 Manitoba children will see the demonstration in the next year.■

The System Develops

Feasibility studies of transmission systems and their costs are growing in number because Canadian and U.S. utilities are continuing to show an interest in purchasing electrical energy from Manitoba Hydro.

In the past year, Manitoba Hydro concluded a major 200 megawatt power sale to Northern States Power Company, which will start in 1993 and continue to 1996. Negotiations towards further power exports are currently underway with Ontario Hydro and a number of utilities in the upper mid-west United States, including The Upper Mississippi Power Group (UMPG), which is a group of utilities from Minnesota, Wisconsin and Iowa, and the WISMINTOBA Group, which is a group of utilities from eastern Wisconsin, upper Michigan and Minnesota.

Manitoba Hydro has also completed a study on the transmission of power to the Western Area Power Administration (WAPA) which is based in Colorado and distributes power throughout the central and western United States.

During the fiscal year, the Corporation completed a second bipolar transmission link, culminating nearly a decade of engineering and construction activity. This was a tremendously large and complex high technology project that has improved the reliability and performance of the Nelson River HVDC power transmission system to the south. Because of this addition, total capacity of the Nelson River HVDC system has been increased to 3 420 megawatts.

Manitoba Hydro is in the process of introducing the world's first commercially-operable, high speed HVDC paralleling system. This system will result in continuity of power transmission from Nelson River plants even if one of the HVDC transmission lines is lost for a prolonged period.

In the north, a 138 kilovolt transmission line is being built a distance of 270 kilometres to connect the town of Churchill, now supplied by a diesel plant, with the central system at Gillam. The new Churchill line is scheduled to go into service in May 1987.

Manitoba Hydro constructed a 33 kilometre, 230 000 volt line to Namew Lake in order to meet the power requirements at a new mine operated by Hudson Bay Mining and Smelting Company Limited.

In the south, work has commenced on the design of a 230 kilovolt transmission line from Letellier to St. Leon. This line will supply a new transformer station near Morden, as well as provide badly needed back-up service to the ice-prone area of southern Manitoba.

A major new transformer station south of Portage la Prairie neared completion during the year. It will improve service to Portage la Prairie and surrounding area, and offer an alternative source of supply to ice-prone communities to the south.

A major transformer station was started at Richer with completion slated for 1987.

Joint planning has been completed with Winnipeg Hydro for a major new interconnection between Manitoba Hydro's St. James Station and Winnipeg Hydro's Sherbrook Station. The interconnection will use 115 kilovolt underground cables, forming the longest such underground line in Manitoba.

Also during the year, in order to ensure the availability of emergency power, an uninterruptible power supply system was installed for the Winnipeg Load Dispatch Office. The Winnipeg Control Centre in the Corporation's head office building went into service in January 1986. It was built to provide special attention to the operation of the 24, 33 and 66 kilovolt subtransmission networks in the eastern and central areas of the province. The prime function of the Control Centre is to monitor, control and coordinate activities on the subtransmission system. This will allow the present Load Dispatch Office to be devoted entirely to bulk power generation and transmission operations.

Central Supply

An 83 kilometre line was constructed on the east side of Lake Winnipeg, connecting Poplar River to Berens River and allowing 172 customers at Poplar River to be served by the central power grid. Service capacity restrictions that applied on the former diesel generation were removed.

High voltage transmission lines, carrying export power to the United States, exist in harmony with southern Manitoba's sunflower crop.

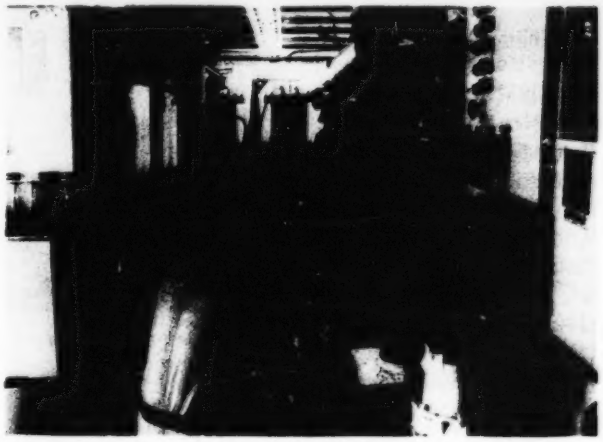
Distribution substations were built and placed in service at Beausejour, Bissett, Darlingford, Poplar River and Waskada. Transformer capacity increases were completed at 27 distribution substations.

Rural Underground Distribution

Central rural areas of the province are subject to severe icing conditions which can result in lengthy service interruptions. Manitoba Hydro completed the first of a five-year program of converting the overhead distribution system in these areas to an underground system. As a result, customers will benefit from a more reliable supply of electricity during periods of adverse weather.

Detailed engineering activity continued so that the rehabilitation of electrical and mechanical systems at both the Great Falls and the Seven Sisters plants could progress. In the north, extensive repairs were carried out to dykes at Long Spruce and Grand Rapids and to the spillway at Kelsey. ■

Steps Taken to Combat PCBs



PCBs in contaminated insulating oil are chemically destroyed.

PCBs (polychlorinated biphenyls) are environmentally persistent substances which are difficult to destroy.

In 1985, Manitoba Hydro became the first utility in Canada to purchase a fully operational and proven process to remove PCBs from insulating oil used in electrical apparatus. The equipment and process were purchased after studies showed that this was the most economical means of removing the PCB contamination.

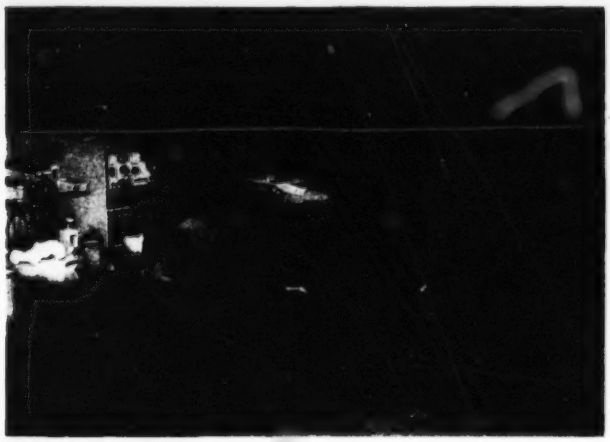
The process chemically destroys the PCB molecule, and the reaction results in the contaminants being changed to environmentally safe by-products, disposable at landfill sites. The oil is available for re-use.

A program of sampling and testing has identified low levels of contamination in more than 2.4 million litres of oil in major apparatus. Now that the Corporation has this equipment, a concentrated effort will be made to process a minimum of 400 000 litres of PCB contaminated oil in each of the next five years. After that, annual processing volumes will decrease.

In establishing priorities for decontaminating oil, Manitoba Hydro will first consider the most environmentally sensitive areas.

In addition, programs are in place to replace equipment or otherwise protect the environment and workers from the potential hazards of PCBs. ■

Special Emphasis on Training



Employee training is encouraged.

Manitoba Hydro places special emphasis on training programs for its employees.

During the fiscal year, 446 employees attended seminars inside and outside the province while another 1 255 employees were enrolled in in-house training. A counselling service to help employees with self development was provided to 310 people. Fourteen engineers—ten electrical, three civil and one mechanical—were hired for the Engineer-in-Training program. The Commerce Development Program was reactivated and this led to the hiring of eight trainees. In addition, two computer science graduates were hired as trainees in data analysis and programming.

Material was developed for a two-week management course which was given to employees in two sections during the first half of 1986.

There was continuing liaison with Yellowquill College, the first native college in the province. Manitoba Hydro is helping Yellowquill to develop its syllabus and is familiarizing college officials with requirements for entry into the Corporation's trade training programs.

Other training activities included making presentations at school career days and coordinating Manitoba Hydro's involvement in the Junior Achievement program. The Corporation's training staff also reviewed courses, prepared new material and participated in meetings of the Manitoba Apprenticeship and Tradesman Qualifications Board.

Manitoba Hydro is confident that the emphasis on training will pay future dividends in terms of staff excellence and productivity. ■

Commitment to Affirmative Action

Special measures are being taken to hire northerners.

In the north, when construction of Manitoba Hydro's $1.94 billion Limestone plant recommenced in July 1985, special measures were taken to employ northern residents of native ancestry.

These measures, which were in effect throughout the fiscal year, stemmed from the affirmative action provisions of the Nelson-Burntwood Collective Agreement which covers the Limestone project. The Northern Resident Employment Committee– which includes representatives from the Hydro Projects Management Association and the Allied Hydro Council–developed and introduced monitoring and reporting systems to ensure that the affirmative action measures were being implemented. Employment data collected to the end of the fiscal year clearly indicate that the measures have been effective in delivering employment opportunities to northern natives.

Within the Corporation, further steps have been taken to increase the representation of women, natives and handicapped persons in the utility's workforce.

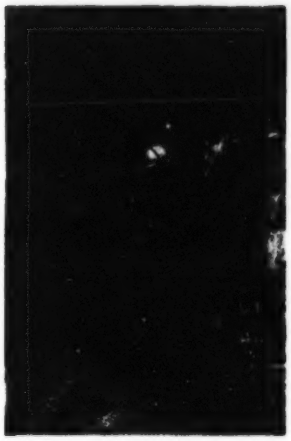
In 1985-86, eight affirmative action workshops were held to orient managers and senior supervisory staff to the program. Training materials such as a manual and audio-visuals have been developed for the workshops.

In the realm of special activities, 11 scholarships were awarded last year. The $600 awards went to a native male enrolled in engineering, five females in engineering, and five females in technology programs at community colleges. The scholarships will be offered again in 1986.

Eighteen native students were enrolled in pre-technical training arranged through the Manitoba Government so that they would have the qualifications to enter the Corporation's line trade trainee program. Sixteen of them successfully completed the training and were hired by Manitoba Hydro as laborers. Three have subsequently progressed to lineman training. Another six native students are taking upgrading courses so they can enter the Corporation's technical trades training programs.

Manitoba Hydro's affirmative action plan and employment preference measures have been approved by the Manitoba Human Rights Commission. ■

A Good Safety and Health Record



The Corporation stresses safety in all aspects of its operations.

For the 22nd consecutive year, Manitoba Hydro's safety record ranked among the top three out of 14 major Canadian utilities.

In the calendar year 1985, Manitoba Hydro was third in the category combining normal electrical utility operations and heavy construction. The number of disabling injuries per million man-hours worked was 7.6, an increase from 5.8 the previous year.

There was one on-the-job fatality during the year when a lineman trainee made contact with a live 4 800 volt conductor.

For the calendar year 1985, the Corporation's vehicle driving record was the third best among the 14 major utilities in Canada. The frequency rate for the Corporate fleet was 5.0 recordable accidents per million kilometres driven.

Because of an active fire prevention and protection program, losses to Corporate property due to fire were the lowest on record.

Safety awareness programs aimed at the public were carried out in concert with the Customer Advisory Services department. There were articles in customer publications plus television public service spots and interviews.

Health education programs for employees continued during the year. Presentations were made on hypertension, back care, cancer, smoking cessation and risk factors in heart disease. These programs have been well received with a high degree of employee participation.

With more committees being established in 1985-86, Manitoba Hydro now has a full complement of 35 Workplace Safety and Health Committees throughout the Corporation. Under recently passed Manitoba legislation, a Committee of this nature must be established in any work area with 20 or more workers. ■

Employees

Labor Contracts Renewed

Peak employment for the fiscal year occurred in August 1985 when there were 3 853 employees compared with a peak of 3 805 in July 1984. A total of 76 employees retired during the year while another 165 were honored for long service to Manitoba Hydro. Two employees completed 40 years of service and 23 attained the 35-year mark. A further 41 employees received 25-year pins while 99 were presented with 15-year pins.

During the fiscal year, Manitoba Hydro signed three-year collective bargaining agreements with each of its three unions.

An agreement with the Association of Manitoba Hydro Staff and Supervisory Employees (A.M.H.S.S.E.) was signed July 11, 1985, and expires March 30, 1988. It replaces the previous two-year agreement which expired March 21, 1985.

An agreement with the International Brotherhood of Electrical Workers (I.B.E.W.), Local 2034, was also signed on July 11, 1985, and will remain in force until May 25, 1988. The previous two-year agreement expired May 29, 1985.

An agreement with the Canadian Union of Public Employees (C.U.P.E), Local 998, was signed August 16, 1985, and expires December 23, 1987. The previous two-year agreement expired December 26, 1984. ■

Northern Claims Settled

Benefits amounting to millions of dollars have been paid to northerners under the Northern Flood Agreement.

Manitoba Hydro is continuing to settle claims arising from the Northern Flood Agreement (NFA).

The NFA provides a vehicle for settling compensation claims by certain Indian bands and their members for damage or loss resulting from the regulation of Lake Winnipeg and the diversion of the Churchill River, two projects that were undertaken as part of Nelson River hydro development. Of the 1 754 claims submitted since 1979, Hydro has settled 1 503. A total of 190 claims are still under investigation and 61 have been rejected.

Negotiations continued during the year in an effort to settle remaining claims. Six of the 132 claims scheduled for arbitration have been heard by the Arbitrator and another 68 have been settled outside arbitration or discontinued.

Benefits amounting to more than $21.8 million have been provided since 1975 to the five Indian bands who are signatories to the NFA. ■

FINANCIAL SECTION

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FINANCIAL REVIEW

The excess of revenue over expense totalled $30.3 million, an improvement over the $11.1 million excess of revenue over expense experienced in the 1984-85 fiscal year. The improvement is primarily due to increased hydraulic generation from the integrated system which increased 2.2 billion kilowatt-hours to 23.2 billion kilowatt-hours. Total Corporate reserves increased to $123.9 million, however the balance remains substantially lower than the target minimum level that is considered appropriate for the Corporation which presently is in the order of $180 to $200 million.

Revenue

Gross revenue from operations amounted to $552.6 million, an increase of 9.1% over the previous fiscal year. Total generation from the integrated system increased by 9.3% or 2.0 billion kilowatt-hours to a total of 23.3 billion kilowatt-hours. Sales of electricity to Manitoba customers increased 2.9% to 12.6 billion kilowatt-hours with increased consumption in all customer classes. The increase in provincial consumption was due to economic growth and to the colder weather conditions of 1985-86 as compared to 1984-85. These factors, combined with the revenue increase of 5% which became effective April 1, 1985, produced increased revenue from Manitoba customers of 8.9% to $432.9 million. Extraprovincial revenues increased by $9.7 million to $112.8 million reflecting an increase in extraprovincial kilowatt-hour sales of 26.4% to 7.3 billion kilowatt-hours partially offset by lower unit selling prices.

Expense

Total expenses were $522.3 million, an increase of $27.1 million over the previous year. Finance expense increased by $4.2 million to $246.8 million. Increased costs associated with carrying new plant in service and slightly higher levels of debt were partially offset by increased investment income and lower interest costs for short-term debt. Depreciation charges increased by $5.1 million primarily due to the new direct current transmission facilities being placed in service. Operating and administrative costs increased by 13.4% or $22.7 million to $191.7 million. Increases in water rental charges and transmission line lease payments represent $9.8 million of the $22.7 million increase. Water rental charges increased by 58.1% or $6.6 million to $17.8 million due to an increase in rates and higher hydraulic generation. Transmission line lease payments increased $3.2 million primarily reflecting a contractual increase for direct current transmission facilities. Other operating and administrative costs increased $12.9 million. Fuel and power purchased decreased by $5.0 million mainly due to the increase in hydraulic generation which reduced the coal consumption of the thermal plants.

Investment in New Plant

Additions to fixed assets for the year were $202.0 million, which is $79.4 million higher than 1984-85. Capital expenditures were incurred on the Limestone Generating Station, the direct current conversion system for the Nelson River transmission facilities and for minor additions, modifications and service extensions throughout the province.

Borrowings

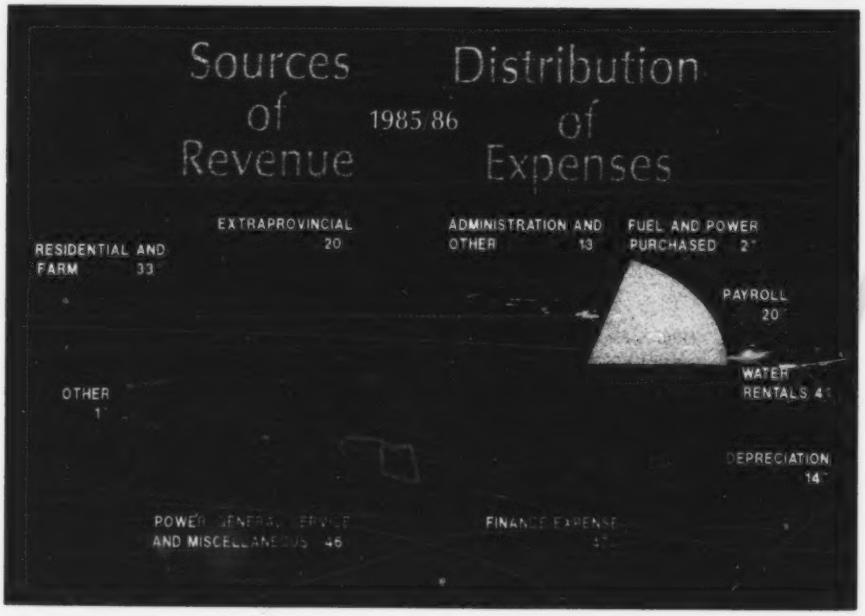
The Corporation borrowed $389.6 million for the purpose of financing capital construction and to retire long-term debt. As at March 31, 1986, outstanding long-term debt (net of sinking fund) was $2 523.8 million compared to $2 213.1 million as of March 31, 1985.

Rate Increase

In January 1986, the Corporation announced a rate increase effective April 1, 1986. The increase is expected to generate approximately $11.3 million or 2.8% additional revenue in 1986-87.

Energy Rate Stabilization Act

In accordance with the provisions of The Energy Rate Stabilization Act, the servicing costs associated with Manitoba Hydro's foreign long-term debt have been assumed by the Province of Manitoba and replaced with Canadian equivalent costs based on Canadian rates for similar terms as at the date the debt was incurred. The Province of Manitoba has confirmed to the Corporation that had the Province of Manitoba not assumed the cost of foreign debt at April 1, 1979 the valuation of the long-term debt of the Corporation as at March 31, 1986 would have been increased by approximately $590 million (1985– $428 million) when translated at the year end rates of exchange.



The Manitoba Hydro-Electric Board

MANAGEMENT REPORT

The accompanying financial statements have been prepared by management in accordance with generally accepted accounting principles in Canada, applied on a basis consistent with that of the previous year. In management's opinion, the financial statements have been properly prepared within the framework of the accounting principles set out in Note 1 to the financial statements and within reasonable limits of materiality incorporating all important elements and data available to June 4, 1986.

AUDITORS' REPORT

We have examined the balance sheet of The Manitoba Hydro-Electric Board as at March 31, 1986 and the statements of operations, reserves and changes in cash resources for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the Corporation as at March 31, 1986, and the results of its operations and the changes in its cash resources for the year then ended in accordance with the accounting principles set out in Note 1 to the financial statements applied on a basis consistent with that of the preceding year.

Peat, Marwick, Mitchell & Co.

CHARTERED ACCOUNTANTS

Winnipeg, Canada
June 4, 1986

Statement of Operations

FOR THE YEAR ENDED MARCH 31, 1986 (with 1985 figures for comparison)

	1986	1985
	(thousands of dollars)	
REVENUES		
Sale of power		
Manitoba	$432 937	$397 495
Extraprovincial	112 846	103 151
Other revenue	6 820	5 768
	552 603	506 414
EXPENSES		
Operating and administrative	191 716	169 040
Depreciation—plant	74 470	69 339
Fuel and power purchased	9 399	14 392
	275 585	252 771
Net revenue before finance expense	277 018	253 643
FINANCE EXPENSE		
Interest on debt	321 486	315 707
Amortization of debt discount and expense	3 688	3 209
Finance expense allocated to construction	(33 452)	(39 324)
Investment income	(44 969)	(37 083)
	246 753	242 509
NET REVENUE TRANSFERRED TO RESERVES	$ 30 265	$ 11 134

The accompanying notes are an integral part of the financial statements.

The Manitoba Hydro-Electric Board

Balance Sheet

AS AT MARCH 31, 1986 (with 1985 figures for comparison)

ASSETS	1986	1985
	(thousands of dollars)	
ELECTRIC UTILITY PLANT (Note 2)		
In service	$3 314 378	$3 173 197
Less: Accumulated depreciation	783 776	713 619
	2 530 602	2 459 578
Construction in progress	326 005	270 947
	2 856 607	2 730 525
INVESTMENTS (at cost)	1 988	1 999
CURRENT ASSETS		
Temporary investments	48 649	1 655
Accounts receivable	75 024	56 302
Accrued revenue	19 077	17 772
Interest receivable and accrued	11 762	10 674
Materials and supplies (at average cost)	30 228	27 712
Prepaid expenses	1 413	1 084
	186 153	115 199
DEFERRED ASSETS (Note 3)	84 507	75 860
	$3 129 255	$2 923 583

Approved on behalf of the Board:

Chairperson

Vice-Chairperson

LIABILITIES AND RESERVES

	1986	1985
	(thousands of dollars)	
LONG-TERM DEBT (Note 4)	$2 523 786	$2 213 115
CURRENT LIABILITIES		
Bank balances	12 238	16 062
Accounts payable and accrued liabilities	53 334	36 436
Notes payable (due within one year)	152 278	178 859
Contract holdbacks	3 663	2 896
Accrued interest	89 268	88 072
Current portion of long-term debt (Note 4)	78 574	210 469
	389 355	532 794
DEFERRED LIABILITIES	16 750	12 169
DEFERRED CREDITS (Note 5)	75 505	71 911
RESERVES (Note 6)	123 859	93 594
	$3 129 255	$2 923 583

The accompanying notes are an integral part of the financial statements.

Statement of Reserves

FOR THE YEAR ENDED MARCH 31, 1986 (with 1985 figures for comparison)

			1986	1985
			(thousands of dollars)	
	Contingency and General	Rate Stabilization	Total	Total
BALANCE—BEGINNING OF YEAR	$123 829	$(30 235)	$ 93 594	$78 353
Net retroactive application of changes in accounting policy implemented in 1984-85	–	–	–	4 107
As restated	123 829	(30 235)	93 594	82 460
Net revenue transferred from operations	–	30 265	30 265	11 134
BALANCE—END OF YEAR	$123 829	$ 30	$123 859	$93 594

The accompanying notes are an integral part of the financial statements.

Statement of Changes in Cash Resources

FOR THE YEAR ENDED MARCH 31, 1986 (with 1985 figures for comparison)

	1986	1985
	(thousands of dollars)	
OPERATING ACTIVITIES		
Cash from operations		
Net revenue	$ 30 265	$ 11 134
Depreciation—plant	74 470	69 339
Amortization of debt discount and expense	3 688	3 209
Other	(585)	157
Non-cash working capital change (see below)	(5 099)	(15 013)
Cash and cash equivalents provided by operating activities	102 739	68 826
FINANCING ACTIVITIES		
Retirement of long-term debt	(170 671)	(84 091)
Proceeds from long-term debt	380 014	61 002
Contributions and advances in aid of construction, less refunds	12 642	4 189
(Decrease) increase in notes payable	(26 581)	45 085
Sinking fund payment	(39 698)	(38 755)
Deferred cost of matured forward exchange contracts	(3 161)	(15 111)
Other	(2 439)	(4 295)
Cash and cash equivalents provided by (used in) financing activities	150 106	(31 976)
INVESTING ACTIVITIES		
Additions to electric utility plant	(202 039)	(122 640)
Other	12	14
Cash and cash equivalents used in investing activities	(202 027)	(122 626)
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	50 818	(85 776)
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	(14 407)	71 369
CASH AND CASH EQUIVALENTS AT END OF YEAR	$ 36 411	$(14 407)
Non-cash working capital change		
Accounts receivable	$(18 722)	$ (6 863)
Accounts payable and accrued liabilities	16 898	(2 800)
Accrued revenue	(1 305)	(2 534)
Materials and supplies	(2 515)	(2 492)
Other	545	(324)
	$ (5 099)	$(15 013)

The components of cash and cash equivalents are bank balances and temporary investments.

The accompanying notes are an integral part of the financial statements.

Notes to the Financial Statements
FOR THE YEAR ENDED MARCH 31, 1986

NOTE 1—SIGNIFICANT ACCOUNTING POLICIES

The financial statements have been prepared in accordance with generally accepted accounting principles except for the accounting for pension costs as noted in d) below.

a) Electric Utility Plant

The electric utility plant is stated at cost which consists of contracted services, direct labour, material and expense, a proportionate share of overhead costs and interest applied at the effective rates incurred in financing construction. Finance expense is allocated to construction until a facility becomes operational or a decision is made to abandon, cancel or indefinitely defer construction. The cost of plant removed plus removal costs less salvage value is charged to accumulated depreciation.

Main facilities of major projects under construction become operational on a progressive basis. As such facilities become operational, related construction costs and a pro rata share of related common properties are transferred to plant in service. Once the transfer to plant in service is made, finance expense allocated to construction ceases and depreciation commences.

Depreciation is provided on a straight line basis using the following service lives for major assets:

Hydro-electric generation	67 years
Thermal-electric generation	33 years
Transmission lines and stations	35-50 years
Distribution lines	30-35 years

Depreciation of the transportation fleet amounting to $2 949 000 (1985-$2 657 000) is included in the overall fleet cost which is allocated on a usage basis to capital and operating accounts and is therefore not included as part of the plant depreciation provision.

b) Foreign Exchange:

Long-Term Debt

Long-term debt payable in foreign currencies is recorded at Canadian dollar equivalents using the exchange rates prevailing at the time the debt was incurred.

The Energy Rate Stabilization Act which came into force April 1, 1979 provides for the Province of Manitoba to relieve the Corporation of the costs associated with the foreign debt of Manitoba Hydro by replacing them with Canadian equivalent costs based on Canadian rates for similar terms as at the date the debt was incurred. The Province of Manitoba has confirmed to the Corporation that had the Province of Manitoba not assumed the cost of foreign debt at April 1, 1979 the valuation of the long-term debt of the Corporation as at March 31, 1986 would have been increased by approximately $590 million (1985-$428 million) when translated at the year end rates of exchange. The Province of Manitoba also confirmed that the net cash outlay relating to the debt sustained by the Province in the current year amounted to $80.7 million (1985-$17.5 million).

Current Assets and Current Liabilities

Current monetary assets and liabilities denominated in foreign currencies, excluding long-term debt payable within one year are translated into Canadian currency at rates of exchange prevailing at the date of the balance sheet. The unrealized exchange gains or losses together with realized exchange gains or losses are credited or charged to operations.

Sinking Fund Investments

Sinking fund investments denominated in foreign currencies are translated into Canadian currency at the rates of exchange prevailing at the date of the balance sheet, except where the investments have been hedged by the Minister of Finance of the Province of Manitoba, in which case the rate confirmed by the Province is used in the translation. The unrealized exchange gains or losses are amortized over the remaining life of the investment and together with realized exchange gains or losses are credited or charged to operations.

c) Hedging Program

To eliminate foreign exchange risk on United States revenues, the Corporation has fixed the foreign exchange rate for the conversion of future United States extraprovincial revenues to Canadian dollars until 1987-88, by the acquisition of forward exchange contracts. The appropriate portion of the deferred cost of matured foreign exchange contracts will be recognized with the related revenue in those years.

d) Pensions:

Manitoba Civil Service Superannuation Fund

In accordance with the provisions of the Manitoba Civil Service Superannuation Act, the Corporation contributes 50% of the pension disbursements made to retired employees. Such payments are charged to income as incurred and a provision is not made in the accounts to fund current or past service obligations of the Corporation to the Civil Service Superannuation Fund.

According to the formula contained in the actuarial report for the year ended December 31, 1983, Manitoba Hydro's unrecorded liability at December 31, 1985 as a result of the participation of employees under the Civil Service Superannuation Act was:

a) if no allowance is made for future increases in pension due to increase in the cost of living, $108 520 000 (1984-$96 360 000).
b) if allowance is made for future increases in pension due to increases in the cost of living, $159 920 000 (1984-$140 843 000).

Manitoba Hydro Retirement Plan

The Manitoba Hydro Retirement Plan is a defined benefit plan which continues to provide benefits to employees and pensioners in respect of service prior to the date each employee entered the Manitoba Civil Service Superannuation Fund. The actuarial report dated October, 1985 indicates an unfunded liability as at July 1, 1985 of $4.7 million (1984-$5.3 million) which is being funded and charged to operations over the next 15 years.

e) Unamortized Debt Discount and Expense

These costs are charged to income over the life of the respective issue.

f) Discount on Sinking Fund Investments

The Corporation records sinking fund investments at par value. The difference between the cost and the par value of the investments is recorded as a premium or discount and the resulting gain or loss is amortized over the remaining life of the investment or charged upon disposal to investment income.

g) Unamortized Planning Studies

These costs are charged to income over a 15 year period.

h) Unbilled Revenue

Revenues include an estimate of energy delivered but not billed.

NOTE 2—ELECTRIC UTILITY PLANT (at cost)

	Fixed Assets in Service			Construction In Progress	1986 Total	1985 Total
	Original Cost	Accumulated Depreciation	Book Value			
	(thousands of dollars)					
Generation	$1 852 483	$372 544	$1 479 939	$291 393	$1 771 332	$1 684 693
Transmission	206 066	59 267	146 799	4 158	150 957	151 133
Substations	678 937	146 226	532 711	10 361	543 072	538 361
Distribution	460 948	154 501	306 447	8 051	314 498	285 120
Other	115 944	51 238	64 706	12 042	76 748	71 218
	$3 314 378	$783 776	$2 530 602	$326 005	$2 856 607	$2 730 525

NOTE 3—DEFERRED ASSETS

	1986	1985
	(thousands of dollars)	
Unamortized bond discount and expense	$28 216	$22 397
Unamortized planning study costs	32 026	34 626
Deferred cost of matured forward exchange contracts	18 273	15 111
Other	5 992	3 726
	$84 507	$75 860

NOTE 4—LONG-TERM DEBT

The Corporation pays an annual sinking fund installment to the Minister of Finance of the Province of Manitoba as provided by The Manitoba Hydro Act of not less than 1% of the principal amount of the outstanding long-term debt on the preceding March 31, and 4% of the balance in the sinking fund at such date. Such installments would provide for the full retirement of a debt obligation only if the obligation was outstanding for 41 years.

Income earned on sinking fund investments is remitted to the Corporation and is included with investment income for the year.

Manitoba Hydro's debt is guaranteed by the Province of Manitoba.

The weighted average coupon rate on the long-term debt outstanding at March 31, 1986 is 10.32% (1985-10.20%).

For the purpose of financing capital construction expenditures and refunding debt during the year, the Corporation received advances totalling $389.6 million from the Province of Manitoba as follows:

- $108.4 million due April 19, 1995 with interest at 11.79%
- $106.2 million due June 26, 1997 with interest at 10.96%
- $170.1 million due February 11, 1991 with interest at 9.56%
- $4.9 million repayable in equal annual installments to March 31, 2016 with interest at 10.125% made under a Government of Canada loan agreement.

Long-Term Debt:	1986	1985
	(thousands of dollars)	
Total long-term debt outstanding—		
The Manitoba Hydro-Electric Board Bonds	$1 247 475	$1 408 990
Advances from the Province of Manitoba represented by debenture debt of the Province	1 557 097	1 209 522
Advances from the Province of Manitoba under a loan agreement between the Province and the Government of Canada	148 992	145 679
	2 953 564	2 764 191
Less: Sinking fund on deposit with the Minister of Finance	351 204	340 607
	2 602 360	2 423 584
Less: Long-term debt maturing within one year— Maturities net of sinking fund plus annual sinking fund installment	78 574	210 469
	$2 523 786	$2 213 115

Debt Maturities:

		Cash Requirements		
Year Ending March 31	Principal Amount of Maturities	Maturities Net of Sinking Fund	Annual Sinking Fund Installments	Total
		(thousands of dollars)		
1987	$ 46 001	$ 36 519	$ 42 055	$ 78 574
1988	143 810	106 246	42 898	149 144
1989	201 881	179 466	41 442	220 908
1990	180 671	155 742	40 184	195 926
1991	331 591	295 908	39 007	334 915
	903 954	773 881	205 586	979 467
1992-1996	1 059 691	812 367	145 101	957 468
1997-2001	267 707	186 601	99 023	285 624
2002-2006	546 379	259 581	77 089	336 670
2007-2011	163 574	73 499	7 793	81 292
2012-2016	12 259	5 150	1 155	6 305
	$2 953 564	$2 111 079	$535 747	$2 646 826

NOTE 5—DEFERRED CREDITS

	1986	1985
	(thousands of dollars)	
Non-refundable capital contributions	$47 387	$39 176
Unamortized sinking fund investment discount	18 633	21 548
Unamortized foreign exchange on sinking fund investments	8 719	8 650
Other	766	2 537
	$75 505	$71 911

NOTE 6—RESERVES

The Corporation maintains the following reserves:

Contingency and General Reserve

An amount calculated as a percentage of net interest expense at a rate as stipulated by The Manitoba Hydro-Electric Board, may be transferred annually to this reserve. A transfer was not made for the years ended March 31, 1986 and 1985.

Rate Stabilization Reserve

The net revenue or expense after provision for the contingency and general reserve is transferred annually to this reserve.

NOTE 7—COMMITMENTS

a) Lease Commitments

In accordance with a lease agreement entered into during 1966 between the Governments of Canada and Manitoba, direct current transmission facilities were constructed between the Kettle Generating Station and Winnipeg. The agreement provides for repayment by the Corporation of the capital cost with accrued interest at 5.625% over a term of forty-five years in accordance with a repayment schedule requiring substantially smaller payments during the earlier years. The schedule provides for payment of $15 000 000 for the year ended March 31, 1986 (1985-$12 500 000) and for annual increases in payments of $2 500 000 for the years 1987 to 1989. The progressive increases result in a payment in 1989 of $22 500 000. Payments for the fiscal years 1990 to 2019 will be calculated as the equal annual payment required to amortize the outstanding balance over thirty years at 5.625%. The unpaid balance of principal plus accrued interest for transmission facilities amounted to approximately $366 304 000 as at March 31, 1986 (1985-$360 942 000).

The Corporation's policy is to charge the lease payments to operations in the period in which they become payable. This policy is consistent with the intent of the lease agreement of providing economic relief to ratepayers during the early years of the Nelson River development. This is evident when compared with a calculation of a charge in accordance with the C.I.C.A. recommendation on accounting for capital leases entered into subsequent to January 1, 1979, which indicates that an additional amount of approximately $10.2 million would have been charged to operations for the year and an additional net asset amount of approximately $183.0 million would have been recorded relating to the transmission facilities.

b) Mitigation—Northern Flood Agreement

Manitoba Hydro is party to an agreement with the Government of Canada, the Province of Manitoba and the Northern Flood Committee Inc., which includes compensation and mitigation for the impact of the Churchill River Diversion and Lake Winnipeg Regulation projects. The total spent on compensation and mitigation during the year was $2.4 million (1985-$4.1 million). The total amount paid to date under the Northern Flood Agreement is $25.2 million as at March 31, 1986. A total of 132 claims have been filed to date with the Arbitrator involving Manitoba Hydro with 68 claims having been settled. Of the 64 claims outstanding, Manitoba Hydro is not able to precisely determine the potential contingent liability but has estimated it to be in excess of $30.0 million.

c) Construction Commitments

Construction on Limestone Generating Station has been committed to provide for first power in 1990-91. The current forecasted cost of the new generating station is $1 940 million.

Other outstanding commitments, principally for construction, were approximately $60 586 000 (1985-$45 352 000).

NOTE 8—COMPARATIVE FIGURES

Where appropriate, comparative figures for 1985 were reclassified in order to conform to the presentation adopted in 1986.

Financial Statistics
(in thousands of dollars)

	1986	1985	1984	1983	1982	1981	1980	1979	1978	1977
STATEMENT OF OPERATIONS										
Revenues										
Residential and Farm	**185 567**	168 977	146 054	126 684	123 629	115 364	117 161	105 999	86 902	71 811
Power, General Service and Misc.	**214 386**	198 692	174 707	151 203	154 579	135 064	132 762	118 795	100 720	85 526
Winnipeg Hydro (Cost Sharing Agreement)	**32 984**	29 826	29 398	27 180	33 146	26 682	25 435	18 865	17 910	16 073
Extraprovincial	**112 846**	103 151	105 654	105 411	72 384	81 965	95 965	82 055	34 634	17 383
Other Revenue	**6 820**	5 768	5 684	4 217	3 865	2 768	3 022	2 817	2 829	2 034
	552 603	506 414	461 497	414 695	387 603	361 843	374 345	328 531	242 995	192 827
Expenses										
Operating and Administrative	**191 716**	169 040	160 735	150 078	129 413	114 398	93 746	81 525	72 385	62 617
Depreciation	**74 470**	69 339	66 294	61 718	60 127	57 793	53 313	43 963	35 610	30 103
Fuel and Power Purchased	**9 399**	14 392	9 289	8 192	16 711	9 973	5 592	3 985	22 695	28 179
Finance Expense	**246 753**	242 509	228 853	213 836	205 544	195 947	176 091	153 395	113 568	76 019
	522 338	495 280	465 171	433 824	411 795	378 111	328 742	282 868	244 258	196 918
Net Revenues Transferred to (from) Reserves	**30 265**	11 134	(3 674)	(19 129)	(24 192)	(16 268)	45 603	45 663	(1 263)	(4 091)
BALANCE SHEET										
Assets										
Plant in Service	**3 314 378**	3 173 197	3 030 182	2 945 435	2 891 325	2 808 938	2 659 268	2 376 777	1 814 239	1 461 030
Less: Accumulated Depreciation	**783 776**	713 619	647 001	584 534	524 720	469 158	413 720	363 462	321 187	288 084
Construction in Progress	**326 005**	270 947	301 641	272 013	202 544	188 792	244 175	399 277	765 897	799 464
Current and Other Assets	**272 648**	193 058	249 270	251 561	156 665	121 269	131 528	179 590	143 005	213 410
	3 129 255	2 923 583	2 934 092	2 884 475	2 725 814	2 649 841	2 621 251	2 592 182	2 401 954	2 185 820
Liabilities and Reserves										
Long-Term Debt—net	**2 523 786**	2 213 115	2 404 657	2 367 561	2 297 887	2 230 803	2 221 647	2 298 726	2 167 919	1 989 939
Current and Other	**481 610**	616 874	451 082	434 887	326 771	293 690	257 988	197 443	183 685	142 891
Reserves	**123 859**	93 594	78 353	82 027	101 156	125 348	141 616	96 013	50 350	52 990
	3 129 255	2 923 583	2 934 092	2 884 475	2 725 814	2 649 841	2 621 251	2 592 182	2 401 954	2 185 820
STATEMENT OF CHANGES IN CASH RESOURCES										
Operating Activities										
Cash from Operations	**107 838**	83 839	65 124	48 095	41 844	47 251	104 442	93 993	36 852	29 182
Non-Cash Working Capital Increase (Decrease)	**(5 099)**	(15 013)	10 384	7 819	(5 562)	1 017	(15 011)	(14 797)	5 000	(6 781)
From Operating Activities	**102 739**	68 826	75 508	55 914	36 282	48 268	89 431	79 196	41 852	22 401
Financing Activities										
Retirement of Long-Term Debt	**(170 671)**	(84 091)	(175 542)	(75 383)	(67 266)	(51 425)	(30 717)	(34 369)	(7 255)	(2 723)
Proceeds from Long-Term Debt	**380 014**	61 002	198 234	273 963	175 393	109 560	1 961	189 038	229 814	398 930
Sinking Fund Payment	**(39 698)**	(38 755)	(37 636)	(35 514)	(33 640)	(32 055)	(31 463)	(29 360)	(26 291)	(21 491)
Other	**(19 539)**	29 868	37 944	2 563	31 782	10 520	56 689	8 070	8 641	10 570
From (To) Financing Activities	**150 106**	(31 976)	23 000	165 629	106 269	36 600	(3 530)	133 379	204 909	385 286
Investing Activities										
Additions to Electric Utility Plant	**(202 039)**	(122 640)	(152 283)	(128 693)	(103 954)	(99 634)	(132 703)	(199 625)	(323 918)	(347 774)
Other	**12**	14	3 320	22	12	965	374	158	593	12
To Investing Activities	**(202 027)**	(122 626)	(148 963)	(128 671)	(103 942)	(98 669)	(132 329)	(199 467)	(323 325)	(347 762)
Increase (Decrease) in Cash Equivalents	**50 818**	(85 776)	(50 455)	92 872	38 609	(13 801)	(46 428)	13 108	(76 564)	59 925

Operating Statistics

	1986	1985	1984	1983	1982	1981	1980	1979	1978	1977
INTEGRATED SYSTEM— MANITOBA HYDRO AND WINNIPEG HYDRO										
Installed Winter Capability (000 kW)	4 091	4 091	4 091	4 091	4 091	4 091	4 091	3 678	3 202	2 985
Manitoba Firm Peak Demand (000 kW)*	2 941	2 952	2 889	2 543	2 735	2 575	2 519	2 419	2 445	2 356
Percentage change	-0.4	+2.2	+13.6	-7.0	+6.2	+2.2	+4.1	-1.1	+3.8	+5.2
Energy Supplied (000 000 kW.h)										
Manitoba Hydro Generation	22 226	20 261	20 967	20 538	17 372	17 975	19 690	17 600	12 669	12 739
Winnipeg Hydro Generation	1 085	1 066	1 042	1 158	813	848	1 111	1 153	766	828
Energy Purchased										
Hudson Bay Mining & Smelting	0	0	0	0	0	38	28	4	93	87
Ontario	0	0	0	0	0	0	0	0	21	0
Saskatchewan	93	61	64	71	179	15	1	1	5	3
United States	17	20	7	43	297	203	0	4	721	528
Total Generated and Purchased	23 421	21 408	22 080	21 810	18 661	19 079	20 830	18 762	14 275	14 185
Firm Energy Supplied for Manitoba Integrated System* (000 000 kW.h)	15 366	14 993	14 388	13 260	13 527	12 529	12 797	12 483	11 962	11 768
Isolated Systems Generated (000 000 kW.h)	46	47	48	47	46	47	50	53	52	53
Total Integrated & Isolated Systems (000 000 kW.h)	15 412	15 040	14 436	13 307	13 573	12 576	12 847	12 536	12 014	11 821
Percentage change	+2.5	+4.2	+8.5	-2.0	+7.9	-2.1	+2.5	+4.3	+1.6	+2.9
MANITOBA HYDRO SYSTEM										
Energy Sold (000 000 kW.h)										
Residential and Farm	4 751	4 520	4 205	3 922	3 765	3 536	3 600	3 616	3 387	3 283
Power, General Service and Misc	6 677	6 590	6 263	5 726	6 068	5 587	5 585	5 328	5 308	5 297
Extraprovincial										
Ontario	917	795	1 153	850	1 089	1 616	1 787	1 439	773	1 582
Saskatchewan	222	233	269	231	342	968	1 378	530	364	408
United States	6 153	4 739	5 409	6 533	3 150	3 299	3 966	3 718	1 004	534
Net Transfer to Winnipeg Hydro	1 190	1 154	1 143	930	1 245	1 163	977	918	1 191	1 107
Number of Customers										
Residential and Farm	305 700	299 611	293 620	288 076	285 175	281 479	279 080	273 779	262 877	253 910
Power, General Service and Misc.	41 019	40 547	39 965	39 766	39 804	39 629	39 129	38 840	38 496	38 027
Peak Number of Employees	3 853	3 805	3 778	3 859	3 850	3 899	4 164	4 411	4 826	4 865

**Corrected by System Losses applicable to Extraprovincial Sales*

Manitoba Hydro Generating Stations and Capacities

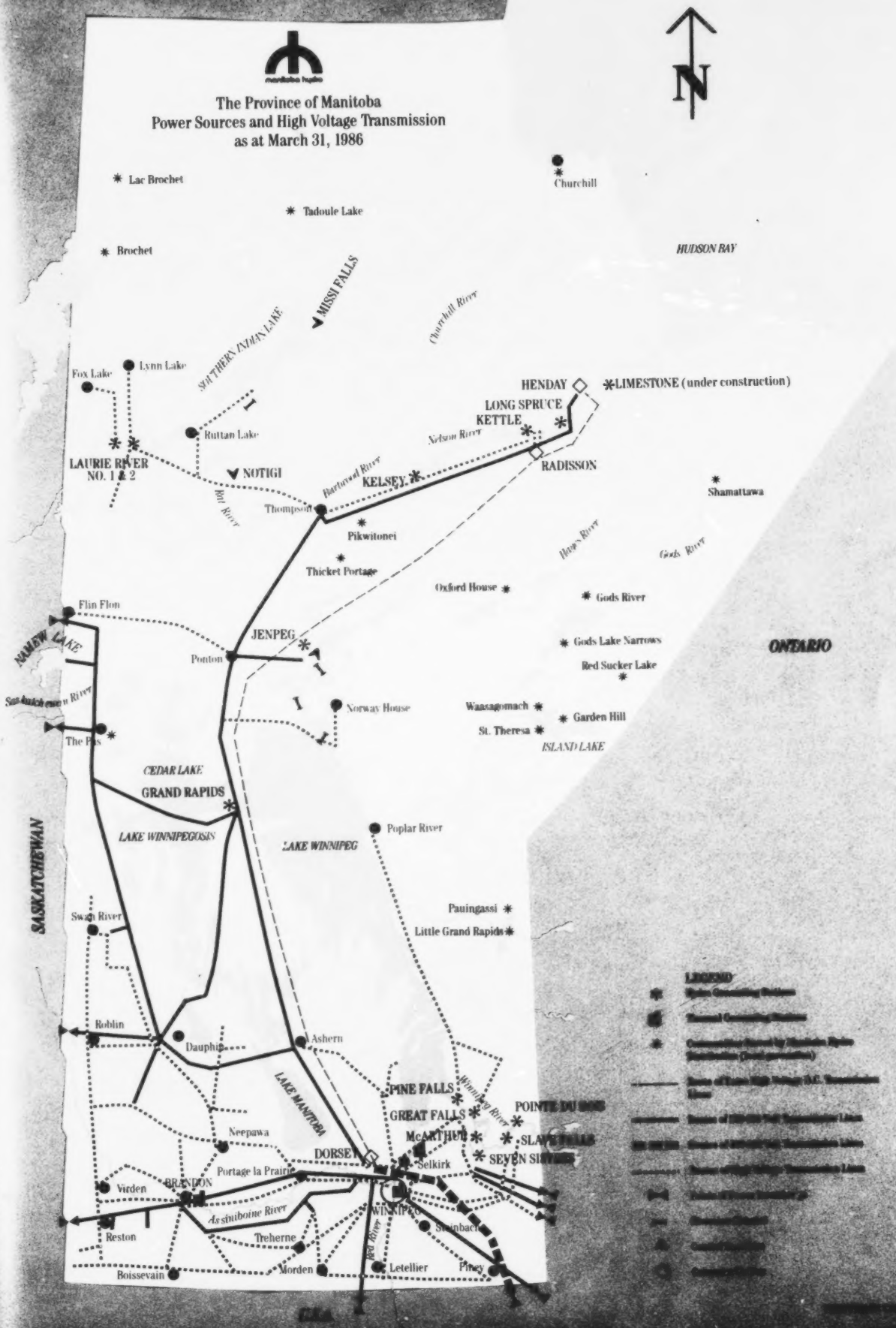
For the Year Ended March 31, 1986 (Normal Winter Capability)

INTERCONNECTED CAPABILITIES

	STATION	LOCATION	No. of Units	Winter Capacity in Kilowatts
HYDRAULIC:	Great Falls	Winnipeg River	6	132 000
	Seven Sisters	Winnipeg River	6	150 000
	Pine Falls	Winnipeg River	6	82 000
	McArthur Falls	Winnipeg River	8	56 000
	Grand Rapids	Saskatchewan River	4	472 000
	Kelsey	Nelson River	7	224 000
	Kettle	Nelson River	12	1 272 000
	Jenpeg	Nelson River	6	126 000
	Long Spruce	Nelson River	10	980 000
	Laurie River (2)	Laurie River	3	10 000
	TOTAL HYDRAULIC			3 504 000
THERMAL:	Brandon		5	237 000
	Selkirk		2	132 000
	TOTAL THERMAL			369 000
GAS TURBINE:	Selkirk		2	25 000
DIESEL:	The Pas		3	2 750
	TOTAL			3 900 750

ISOLATED CAPACITIES

DIESEL:	Brochet	650
	Churchill	11 248
	Garden Hill	1 600
	Gods Lake Narrows	1 600
	Gods River	350
	Little Grand Rapids	525
	Lac Brochet	525
	Oxford House	1 400
	Pauingassi	300
	Pikwitonei	350
	Red Sucker Lake	650
	St. Theresa	1 475
	Shamattawa	525
	Tadoule Lake	600
	Thicket Portage	300
	Waasagomach	1 100
	TOTAL	23 198
TOTAL GENERATING CAPACITY		**3 923 948**


The Province of Manitoba
Power Sources and High Voltage Transmission
as at March 31, 1986
N
Lac Brochet
Churchill
Tadoule Lake
Brochet
HUDSON BAY
MISSI FALLS
Churchill River
SOUTHERN INDIAN LAKE
Fox Lake
Lynn Lake
HENDAY
LIMESTONE (under construction)
LONG SPRUCE
KETTLE
Ruttan Lake
Nelson River
LAURIE RIVER
NO. 1 & 2
NOTIGI
Burntwood River
KELSEY
RADISSON
Shamattawa
Bird River
Thompson
Pikwitonei
Hayes River
Gods River
Thicket Portage
Oxford House
Gods River
Flin Flon
JENPEG
NAMEW LAKE
Ponton
Gods Lake Narrows
ONTARIO
Red Sucker Lake
Saskatchewan River
Norway House
Waasagomach
Garden Hill
The Pas
St. Theresa
ISLAND LAKE
CEDAR LAKE
GRAND RAPIDS
LAKE WINNIPEGOSIS
LAKE WINNIPEG
Poplar River
SASKATCHEWAN
Pauingassi
Little Grand Rapids
Swan River
Roblin
Dauphin
Ashern
LAKE MANITOBA
PINE FALLS
Winnipeg River
POINTE DU BOIS
GREAT FALLS
McARTHUR
SLAVE FALLS
Neepawa
DORSET
SEVEN SISTERS
Selkirk
Portage la Prairie
Virden
BRANDON
WINNIPEG
Assiniboine River
Steinbach
Reston
Treherne
Red River
Morden
Letellier
Piney
Boissevain
LEGEND